

REMARKS/ARGUMENTS

This Amendment is submitted in response to the Office Action mailed January 8, 2004. At that time claims 1-23 were pending in the application. In the Office Action, the Examiner rejected claims 1-5 and 7-19 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,041,256 to Petty et al. (hereinafter “Petty”) in view of U.S. Patent No. 4,519,569 to Nolan (hereinafter “Nolan”). The Examiner also rejected claim 6 under 35 U.S.C. §103(a) as being unpatentable over Petty in view of Nolan, and further in view of U.S. Patent No. 4,923,388 to Nakamura (hereinafter “Nakamura”). Claims 20-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Petty in view of Nolan.

By this Amendment, claims 1, 3, 7, and 8 have been amended. New claim 29 has been added. Support for claim 29 can be found, for example, in original claim 1 and page 19, line 17 to page 20 line 7, and page 24, lines 1-6. Accordingly, claims 1-23 and 29 are presented for reconsideration by the Examiner.

REJECTION OF CLAIMS 1-5 AND 7-19 UNDER 35 U.S.C. §103(a)

The Examiner rejected claims 1-5 and 7-19 under 35 U.S.C. §103(a) as being unpatentable over Petty in view of Nolan. *See* Office Action ¶ 3, page 2. The Applicant respectfully traverses this rejection.

The Applicant submits that the Examiner has not established a *prima facie* case of obviousness. It is well settled that the PTO has the burden to establish a *prima facie* case of obviousness. *See* MPEP §2142. “If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.” *Id.* A *prima facie* case of obviousness is established only if the Examiner shows that (1) there is some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there is a reasonable expectation of success; and (3) the prior art teaches or suggests all of the claim limitations. *See id.*

1. Petty and Nolan Fail to Teach All Claim Limitations

According to MPEP §2143.03, to establish a *prima facie* case of obviousness, “all of the claim limitations must be taught or suggested by the prior art.” (citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (C.C.P.A. 1974)). “If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.” MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). As a result of this paper, claims 1-5 and 7-19 include the limitation that the inner core die has a ramped window mold member. This limitation is not taught or disclosed by either Petty or Nolan.

Petty teaches a method for forming a plastic pipe connector. *See* Petty, col. 1, lines 7-8. The plastic pipe connector includes a U-shaped cut-out (17) that defines a locking member (9). *See* Petty, col. 2, lines 60-64. To form the U-shaped cut-out, a moving core (16, Fig. 3a) slides through (or projects from) the external mold (15) and into a recess in the internal mandrel (19). *See* Petty, col. 2, lines 60-61. Note that the moving core (16, Fig. 3a) does not project from the internal mandrel (19), but comes from an exterior location. When the molded piece has solidified, the moving core slides away from the recess in the internal mandrel. *See* Petty, Figure 3b.

Nolan, on the other hand, teaches the use of a device for molding bottle caps, having an internal core (12) and a surrounding sleeve (13). *See* Nolan, col. 1, lines 20-28. The sleeve (13) is a split sleeve that moves away from the core (12) when the mold opens. *See* Nolan, col. 1, lines 61-66. The internal core (12) has a small projection that forms a line of weakness (52) in the bottle cap, enabling the lower portion of the cap to be torn off indicating tampering of the cap. *See* Nolan, col. 2, lines 56-64.

As noted above, Petty does not teach a window mold member projecting from a surface of the inner core die. The moving core (16, Fig. 3a) of Petty does not project from its internal mandrel (19), but instead comes from an exterior location. *See* Petty, Figures 3a, 3b. The Examiner has asserted that the internal mandrel of Petty could be modified with the inner mold core taught by Nolan. *See* Office Action, ¶ 3, page 3. However, Nolan does not teach the formation of windows by its inner core. Rather, Nolan teaches the formation of a line of

weakness in the bottle cap, configured to tear when tampered with. The line of weakness would be an annular line, circumscribing a lower portion of the bottle cap. *See Nolan, Figure 1.*

The Examiner has equated windows in a molded piece with the line of weakness disclosed by Nolan. *See Office Action, ¶ 3, page 3.* However, windows are not necessarily designed to tear as is the line of weakness in Nolan. In fact, the windows of the present invention are designed to prevent such weaknesses. *See Application, page 26, lines 4-10.* Therefore, Petty cannot be modified by Nolan as suggested by the Examiner because there is no suggestion or motivation to do so. The formation of windows in a molded piece does not solve the same problem as forming a line of weakness. The two structures cannot be as easily equated as Examiner suggests.

Furthermore, the moving core of Petty does not include a ramp “configured to separate the interior wall of the piece being molded from the surface when the molded piece and inner core die are separated.” Petty’s lack of disclosure of a ramped window mold member was admitted by the Examiner. *See Office Action, ¶ 3, page 2.* As shown in Figures 3a – 3c of Petty, the moving core (16, Fig. 3a) has flat, non-ramped surfaces. Because the surfaces of the moving core are flat, the molded piece (9) cannot be separated from the internal mandrel without damaging the molded piece or without the additional movement of parts (i.e., the moving core) or tools. As discussed in the present application, the use of additional moving parts or tools raises costs and the complexity of the molding process. *See Application, page 5, lines 2-10.*

Moreover, Nolan does not disclose an inner core die having a ramped window mold member. Nolan merely teaches the use of projections to form a line of weakness. However, windows are not formed in the sides of the bottle caps. Therefore, Nolan does not teach a ramped window mold member. As neither Nolan nor Petty teach all claim limitations, the rejection under §103(a) for obviousness is improper. Withdrawal of this rejection is respectfully requested.

2. There is No Suggestion or Motivation to Modify or Combine Petty and Nolan

According to MPEP §2143, to establish *prima facie* obviousness, there must be some suggestion or motivation to modify the reference or to combine reference teachings to arrive at the claimed invention. “The teaching or suggestion to make the claimed combination … must be found in the prior art, not in applicant's disclosure.” MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” MPEP §2143.01, citing *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

The Examiner has urged that the ramps recited in the rejected claims are “merely a change in shape” and “It would have been obvious to modify Petty with the prongs of the U-shaped window mold member to be sloped because it is merely a change in form and shape. *In re Dailey et al*, 149 USPQ 47 (CCPA 1966).” *See* Office Action, ¶ 3, page 3. However, the case cited by the Examiner stands for the proposition that a shape change may be obvious if the applicant has failed to present an argument as to why that particular configuration is significant. *In re Dailey*, 149 U.S.P.Q. at 51. A ramped surface on the window mold member is significant because it separates the molded piece from the inner core die without damaging the windows when the separating rods push the molded piece away from the inner core die. *See* Application, page 19, line 17 to page 20, line 7.

A window mold member with a flat surface would not encourage separation of the molded piece and the inner core die. If such separation were forced by ejector pins or rods, the molded piece would tear and become damaged. *See* Application, page 18, line 21 to page 19, line 4. That is why Petty requires the use of additional moving parts, i.e., the moving core (16, Fig. 3a), to separate the molded piece from the internal mandrel (19). *See* Petty, Figures 3a – 3c. The ramped surface of the window mold member of the present invention allows for separation of the molded piece and the inner core die without the use of additional tools or automated injection mold machinery.

The Examiner has cited case law recited in MPEP §2144.04 to stand for the proposition that a shape change is obvious. *See* Office Action, ¶ 3, page 3. However, according to MPEP

§2144.04, “If [the] applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection.”

Furthermore, a claim is *unobvious* when an element of the prior art reference is eliminated, but the function of the element is retained. MPEP §2144.04; *See also In re Edge*, 359 F.2d 896, 149 USPQ 556 (CCPA 1966) (it is “unobvious to omit an element while retaining its function”) (citations omitted). The need for a moving core (16, Fig. 3a) disclosed in Petty is obviated by the use of a ramped window mold member according to the present claims. The moving core in Petty is used to allow separation of the molded piece and the internal mandrel. The ramped window mold member of the present invention performs the same function without the need for additional tools or automated parts. *See Application*, page 20, lines 4-7.

For the foregoing reasons, claims 1-5 and 7-19 are not obvious under §103(a) because there is no suggestion or motivation to modify or combine Petty and Nolan to arrive at the claimed invention. Withdrawal of this rejection is respectfully requested.

REJECTION OF CLAIM 6 UNDER 35 U.S.C. §103(a)

The Examiner rejected claim 6 under 35 U.S.C. §103(a) as being unpatentable over Petty in view of Nolan, and further in view of Nakamura. *See Office Action ¶ 4*, page 4. The Applicant respectfully traverses this rejection.

According to MPEP §2143.03, “If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.” (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)). Claim 6 depends from independent claim 1. As was discussed above, independent claim 1 is unobvious. Therefore, claim 6 is also unobvious.

The Examiner cited Nakamura for its disclosure of a metal mold member. However, Nakamura does not provide disclosure regarding a ramped window mold member in an inner core die, and therefore, does not remedy the problems associated with combining Petty and Nolan. Accordingly, applicant respectfully requests that this rejection be withdrawn.

REJECTION OF CLAIMS 20-23 UNDER 35 U.S.C. §103(a)

The Examiner rejected claims 20-23 under 35 U.S.C. §103(a) as being unpatentable over Petty in view of Nolan. *See* Office Action, ¶ 5, page 4. The Applicant respectfully traverses this rejection.

As noted above, a *prima facie* case of obviousness under §103(a) is not established unless all of the claim limitations are taught or suggested by the prior art. MPEP §2143.03. Claims 20-23 recite an *airbag* injection mold inner core die and “a pair of ramps connected to the window mold member.” Neither Petty nor Nolan discloses these limitations. As discussed above, neither reference teaches ramped window mold members. The arguments presented above are incorporated herein.

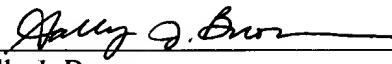
Furthermore, neither reference discloses an injection mold inner core die for an airbag structure. Petty discloses an injection mold apparatus for fabricating a plastic pipe connector. *See* Petty, col. 1, lines 7-8. Nolan discloses an injection mold apparatus for fabricating bottle caps. *See* Nolan, col. 1, lines 20-28. Neither reference discloses an injection mold apparatus for providing airbag structures. As Petty and Nolan are constructed to produce pipe connectors and bottle caps, respectively, they cannot be used to produce airbag components. Accordingly, Petty and Nolan fail to teach all the limitations of claims 20-23. Withdrawal of this rejection is respectfully requested.

CONCLUSION

Applicant respectfully asserts that claims 1-23 and 29 are patentably distinct from the cited references, and requests that a timely Notice of Allowance be issued in this case. If there are any remaining issues preventing allowance of the pending claims that may be clarified by telephone, the Examiner is requested to call the undersigned.

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Respectfully submitted,



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